OIPE IAP18
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PATENT & TRADEMARK OFFICE

Office Action Summary	10/817,367	EGERESI, ZOLTAN
	Examiner: Ralph A. Lewis	Art Unit: 3732

AFW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 2* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 April 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712.** Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R.Lewis
December 18, 2006

Ralph A. Lewis
Primary Examiner
Au3732

THANK YOU FOR YOUR HELP,

Zoltan Gan - (813) 425-4512

THIS SUBMISSION CONTAINS NO NEW MATERIALS.

EMAIL : ZOLTAN49@STARBAND.NET.

FAX 831-425-7888

JAN 2 2 2007

Notice of References Cited

Application/Control No.	Applicant(s)/Patent Under Reexamination
10/817,367	EGERESI, ZOLTAN
Examiner: Ralph A. Lewis	Art Unit: 3732 — Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-3,810,465	05-1974	Lambert, John W.	601/160
*	B	US-3,902,664	09-1975	Deines, Siegmund	239/99
*	C	US-3,973,558	08-1976	Stouffer et al.	601/165
*	D	US-4,135,501	01-1979	Leunissan, Henry P.	433/80
*	E	US-4,512,514	04-1985	Elcott, Teleb M.	239/99
*	F	US-4,942,870	07-1990	Damien, George	601/165
*	G	US-5,095,893	03-1992	Rawden, Jr., Walter J.	601/165
*	H	US-5,218,956	06-1993	Handler et al.	601/155
*	I	US-5,220,914	06-1993	Thompson, Thomas W.	601/155
*	J	US-5,387,182	02-1995	Otani, Tony U.	601/165
*	K	US-5,727,733	03-1998	Ruttenberg, Gideon	239/99
*	L	US-6,740,053	05-2004	Kaplowitz, Gary H.	601/162
*	M	US-6,848,471	02-2005	Floh et al.	137/512.15

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Objections to the Specification

The specification is objected to as being full of run-on, poorly constructed and incomplete sentences. There are grammatical and spelling errors too numerous to mention. The failure to indent the different paragraphs makes the application difficult to read and understand. Applicant is required to carefully review the specification and make the appropriate changes. It is suggested that applicant secure the services of someone fluent in the English language.

Additionally, in the "Brief Description of the Several Views of the Drawings" section of the application. A listing of each Figure should be provided followed by a brief description. Each description should be indented – for example

Figures 1A, 1B and 1C show a typical faucet spout with a special filter washer (29).

Figure 2A shows a basic prior art diverter (2) with a DentalJet holder (3) on the side.

Figure 2B illustrates the Dental Jet holder.

Figure 3 shows the DentalJet diverter in a normal position.

Figure 4 shows the interchangeable hose assembly.

Figure 5 illustrates the interchangeable hose assembly with a single wide clamp (26) under water pressure and flexible rubber tube (16) in the inflated position.

A substitute specification is required pursuant to 37 CFR 1.125(a) because of the informalities noted above.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the

immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Objection to the Drawings

The drawings are objected to because element 16 in Figures 4-10, 13 and 14 described as being comprised of a flexible rubber material is illustrated in cross-section as being comprised of metal. Rubber has cross hatching with thick lines (see for example element 21 in Figure 1 of Lambert (US 3,810,465)). Correction is required.

Rejections based on 35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Initially, it is noted that it is unclear whether applicant is intending to present a single claim with two elements identified as "1" and "2" or whether applicant is presenting two different claims. The present claims are narrative in form and replete indefinite and functional or operational language. The structure which goes to make up the invented device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claims must be in single sentence form only. Note the format of the claims in patents cited.

Rejections based on Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaploowitz (US 6,740,053) in view of Handler (US 5,218,956).

Kaplowitz discloses a diverter assembly that is adapted to be attached to a faucet having a rotatable stop cock assembly 8 for diverting the flow to hand piece 14. The Kaplowitz device lacks the claimed filter. The use of mesh filters in such plumbing fixtures is conventional in the art as evidenced by Handler who teaches the use of one at 48 in Figure 2. To have merely used a mesh filter/screen with the Kaplowitz diverter

in order to keep contaminants out of the hand piece would have been obvious to one of ordinary skill in the art.

Allowable Subject Matter

Claim 2 would be allowable if rewritten to overcome the rejection based on 35 U.S.C. 112, second paragraph above. The examiner suggests canceling claims 1 and 2 and submitting the following claim 3, which is allowable over the art of record.

3. (new) A multi-user oral cleansing device comprising:

a diverter for connection to a faucet, said diverter having a valve for diverting water from the faucet;

an elongated connecting hose having opposite first and second ends, said first end connected to the diverter for conveying water from the valve;

a dental jet hand piece being connected to the second end of the elongated connecting hose and having a nozzle for directing fluid to a patient's oral cavity, said jet hand piece having an adapter for pulsating the flow of water through the jet hand piece, said adapter being comprised of an elongated rigid tubular member having barbed first and second ends and a first fluid passage extending longitudinally there through, said adapter further including a second fluid passage extending diagonally through the tubular member wall and in communication with the first fluid passage, said first barbed end being connected to the second end of the elongated connecting hose, said adapter

further comprising a rubber hose that extends over the second barbed end of the tubular member and covers the second diagonal fluid passage;

wherein when water flows through the jet handpiece water is conveyed through the adapter first passage and through the second passage where the water pressure repeatedly bulges the rubber hose around the tubular member second barbed end until the water is released out the end of the rubber hose and the bulging hose collapses, the repeated bulging and collapsing of the rubber hose causing the water directed out of the nozzle to pulsate.

Prior Art

Lambert (US 3,810,465), Deines (US 3,902,664)(NOTE PARTICUALRLY FIGURE 4), Stouffer et al (US 3,973,558), Leunissan (US 4,135,501), Elcott (US 4,512,514), Damien (US 4,942,870), Rawden, Jr. (US 5,095,893), Hander et al (US 5,218,956), Thompson (US 5,220,914), Otani (US 5,387,182), Ruttenberg (US 5,727,733), Kaplowitz (US 6,740,053) and Floh et al (US 6,848,471) are made of record.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

BACKGROUND OF THE INVENTION

Field of Invention

This invention generally relates to the field of Dental hygiene in particularly to the ways and means of removing and washing out food particles from the oral cavity, from under bridge works, around crowns, plaque from teeth and massaging gums in a user friendly, inexpensive way. This DentalJet is also useful of cleaning dentures, or even jewelry with strong jet flow setting. US patent classification is 128/66, International classification is A61H 9/00.

Most ~~of the~~ attention has been given to the care and preservation of the teeth and gums, and to various types of apparatuses employing a jet of water for cleaning the teeth and massaging the gums. Such apparatus are old and well known in the arts and are generally characterized as being structurally complex, most are expensive to manufacture, some are big and bulky, unsightly or inconvenient to use.

Description of Prior Art

This multi user oral cleansing invention overcomes some of these shortcomings of the prior arts and or creates a new way to maintain excellent oral hygiene at low cost in ~~at~~ the most convenient way. ~~Patent No 3,593,707 July 20, 1968 Pifer shows a Jet tooth brush combination, uses faucet valves as a main water flow and temperature control, uses too many parts, brush/jet tip is too cumbersome for easy manufacturing, to the best of my knowledge it never made it to public. 3,690,314 Trupp et al uses special diverter / impeller to create pulsating water jet for oral cleaning with a non detachable nozzle for some reason it is not on the market.~~

3,973,558 Stouffer et al uses and oscillating jet tip, nozzle / handle seems too long to be for practical use. 4,135,501 Leunissan uses a gripping adapter to the faucet, in most cases it would slip off from the water pressure, or it is just not adaptable to most types of faucets. ~~4,265,229 Rice at al. describes a simple, but a usable device for shower connection. 4,793,331 Stewart uses a shower type diverter driven dental jet, very similar to the Rice invention. 4,941,459 Sandip Mathur uses a slip on type adapter looks very industrial, crude design, seems it never made it to the market place for this reason.~~ 4,942,870 Damien looks bulky and may be impractical for daily use, not being marketed. 5,095,893 Rawden Jr. seems to be a low cost oral cleaning device, diverter is a pull type, once activated water pressure keeps diverter in diverted position, ~~only water pressure control is the main faucet valve,~~ no secondary fine pressure adjustment is available but it employs a replaceable jet and pulsating impeller. 5,220,914 Thompson's water / antiseptic mixer, installed to the shower head or to cold water line. ~~5,231,978 Kao et al uses too many parts, faucet adaptation looks very impractical. 5,385,533 Coviello uses a quick disconnect, with main faucet valve as a sole flow control. 5,387,182~~ Otani uses snap on coupling which needs to be removed ~~every time~~ for regular faucet use. ~~less than convenient. 5,772,616 Competiello's leak proof claim with his faucet attachment is next to impossible to achieve with most of today's faucets.~~ Ruttenberg US 5,727,733 patent is a continuous water flow pulsate aided by a spring, Kaplowitz US 6,740,053 uses a faucet diverter, Handler's US 5,218,956 is an oral irrigating device connecting to a shower head. Floh et al US 6,848,471 is an in line check valve working with water pressure.

Several powered and non powered dental cleaning devices have been invented, the only dental jet widely marketed is a powered multi nozzle Teledyne's Waterpik system and next to nothing on the non powered version, for most part being impractical, inconvenient or cumbersome in design. My present invention contains none of the disadvantages of the prior art. ~~Through its simplicity~~

~~of~~ It is a simple design and lacks moving parts or electricity. Safety and convenience are increased, while noise, cost and maintenance is reduced.

BRIEF SUMMERY OF THE INVENTION

The object of this invention is to create a new multi user water pressure driven oral cleansing device ~~, DentalJet~~ with exchangeable nozzle / handle which is easy to use, it uses no electricity, ~~easy and~~ inexpensive to manufacture, therefore inexpensive at the retail level.

This invention creates a more convenient way to maintain dental hygiene. Just by rotating a diverter, it turns a faucet into an inexhaustible water source for the DentalJet. It can be manufactured with few components, ~~easy to maintain,~~ uses domestic water supply under pressure. ~~filter in the diverter to prevents any jet-tip clogging, prior art rotating diverter also works as a fine water volume control with preset water temperature.~~

The object of this invention is to provide a new and convenient way to exchange nozzles for ~~the~~ different family members by using a pressurized flexible hose adapter with ~~an~~ expendable rubber tubing inside the handle. Water flows ~~under~~ in the flexible tubing, causing a pulsating jet stream ~~expending it, than water leaves at the jet-tip as tubing deflates,~~ it inflates a separate rubberized tubing at the end of the hose under pressure. Inside the exchangeable handle it creates a ~~pressure builds up again expanding it, creating a~~ pulsating jet stream ~~and the~~ as it bulges up the rubber hose around the adapter ~~keeps the adapter water~~ keeping it tight inside the handle.

The color coded jet-tip / handle can be replaced when water pressure is removed by turning the diverter in the regular straight direction, deflated rubber tubing allows an easy exchange of water jets by sliding the "interchangeable ~~hose assembly~~ handle/Dental jet" in and out.

The footprint of this DentalJet is very small. The handle holder is attached to the diverter, needs no extra counter space which is very important in small bathrooms and needs no electricity.

Inventor: **Zoltan Egeresi**

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Sheet 1 FIG 1 shows a typical faucet spout 1A, 1B and 1C is a special filter/washer (29) for illustration purposes. ~~with a fine plastic filtering mash on top and bottom with felt in the center~~, 2A shows a basic prior art diverter (2) with a DentalJet holder (3) on the side. ~~2B the DentalJet holder~~.

FIG 3 shows the DentalJet diverter in normal position. ~~with compression fitting and tube with DentalJet holder (3).~~

Sheet 2 FIG 4 shows the elected interchangeable handle assembly. ~~a flexible PVC tube (10) tightly fits on~~

~~the stainless steel barbed connector (14) held together with single clamp (18). On one end the expendable rubber hose (16) on the other end, water under pressure enters at (19), exits at (20) and under flexible rubber hose (16) trough hole (15). Rubber tubing (16) expands and collapses based on water flow volume, creating a pulsating effect and keeps the hose assembly inside the handle (13) as it bulges up.~~

FIG 5 ~~shows~~ illustrates the interchangeable hose assembly with a single wide clamp (26) under water pressure, flexible rubber tube (16) is in the inflated position.

FIG 6 shows the hose assembly in the inflated position inside the handle (13), inside diameter of handle is enlarged (17) to accommodate the inflated rubber hose to keep the assembly inside the handle (13).

Sheet 3 FIG 7 shows the side view of the DentalJet with dual single clamps

FIG 8 side view shows the hose assembly inside the handle ~~a closable hosing by cap~~ with a closing cap(27).

FIG 9 shows the rubber hose end with two clamps providing the maximum ~~positioning~~ tightness

inside the handle, but no pulsating effect. ~~Jet outlet (20) is a reduced diameter flow limiter.~~

FIG 10 same as FIG 6 with ~~whole~~ nozzle (11) with maximum pulsating effect. ~~since all the water is passing inside the flexible rubber tube (16).~~

FIG 11 shows the side view of the case (13) and tip (11) as a sealed unit.

FIG 12 shows the stainless steel barbed adapter (14) molded inside the PVC tip (11) for a single user.

FIG 13 shows a replaceable threaded nozzle (39) with pulsating adapter assembly / handle.

Sheet 5 FIG 14 the replaceable nozzle (36) with an exterior threading, it mates with the female threading of the handle as they are interchangeable.

DETAILED DESCRIPTION OF THE INVENTION

Sheet 1FIG 1-3 illustrates prior art components as it is being used with the new invention.

FIG 1A shows a typical faucet spout (1) with threading (21), DentalJet (13) in the holder (3), 1B and 1C is a special filter/washer (23) with rubber vulcanized to the fine plastic filtering ~~mash~~ screen on top and on the bottom (30) with felt in the center (29) for fine particle filtering to prevent clogging up the DentalJet (13). ~~as an improvement over prior arts.~~

FIG 2A shows the diverter (2) in diverted mode supplying water via filter (~~30~~)(23), center of diverter (32) via rotating diverter drum(39) compression type connector (5), (25), threading (4), normal flow exists trough regular aerator (6) from faucet (1). Diverter is attached to the end of the faucet by captive , rotating nut (24) with inside threading (~~21~~) a DentalJet holder (3) on the side, 2B shows the DentalJet holder (3) made of plastic, preferably PVC or vinyl. It has two oval holes (33) on the side, plastic cable tie (31) is threaded trough and around the diverter above the diverter knob (7) to keep the DentalJet (13) in a secure position when ~~if~~ not in use.

FIG 3 shows the diverter (2) in normal mode with flexible PVC tube (10) which is fed trough compressure nut (8) in the center hole (9) over the sleeve (5) to provide a water tight connection when nut (8) is tightened, flex tube is about 20-25" long, the other end is the interchangeable hose assembly (Fig, 4, 5, 6). Diverter knob (7) in partial diversion acts as a fine volume / pressure control, ~~and it is an improvement over prior arts~~ as it adjusts water pressure very conveniently with one hand with pre-selected ~~without changing~~ water temperature.

Sheet 2 FIG 4 shows the other end of the flexible PVC hose (10) capable for compression and water tight barbed fitting at the interchangeable hose assembly, as it is tightly fitted on the ~~stainless steel~~ rigid barbed connector (14) at least one inch in length. The other end of the adaptor has a flexible, expandable rubber tube (16) over the barbing area A to B attached with single clamp (18). Water flows from PVC hose (10) through the rigid, barbed adapter (14) intake opening (19) through smaller diameter volume limiter opening to the front end opening (20).

The front end of the ~~brass-~~ rigid plastic or metal barbed adapter (14) is drilled through at location (15) to channel the water under the flexible rubber hose (16). As the water flows under pressure trough the opening (15) it bulges up the rubber tube (FIG 4, 5, 6) and presses against the inner wall of DentalJet ~~(13)~~ at FIG 6 (17) to keep the hose tip assembly solidly inside the interchangeable handle (13).

~~The adapter is also referred to as " the interchangeable hose assembly".~~

Front end of adapter (14) has some "play" inside the handle to allow some water to pass trough between the barbing and the rubber hose. Bulged up tube releases some water on the front when pressure is built up, partially deflates as water exist, than bulges up again, providing an oscillating, pulsating water flow effect as the water flows into the jet tip(11) ~~sealed or glued together with~~ in the handle.

On FIG 5 and 6 the clamp (26) is dual wide ~~for extra hose clamping ability.~~ to be able to clamp the water supply hose (10) and the expandable short rubber hose (16) together to the barbed adapter (14).

Sheet 3 FIG 7 shows the complete interchangeable nozzle / handle assembly with the adapter hose assembly inserted without water pressure.

FIG 8 is a preferred configuration for a single user, where the handle is threaded at the end (21) and closable by cap (27).

FIG 9 shows a non pulsating interchangeable hose adapter end where the expandable rubber tube (16) is clamped at both end by clamps (18 and 26), providing the maximum friction to hold the hose adapter inside the handle (13) as water pressure bulges up the tube through hole (15).

FIG 10 provides the maximum pulsating effect, all water passes under the flexible rubber hose (16) than to the nozzle (11). ~~Handle inside diameter at (28) (13) allows the water to pass trough.~~

FIG 11 shows the integrated nozzle / handle (11,13) nozzle (12) without the hose tip assembly.

FIG 12 shows a single user DentalJet assembly where one end of the brass or stainless steel

threaded cap (25).

Sheet 5 of FIG 13 shows an interchangeable handle 13A with male threading at the front end (37) with an interchangeable nozzle assembly (39), nozzle (12) and inside threaded connecting end(38) capable of being ~~to be~~ attached to the handle with means of threading.

FIG 14 shows an interchangeable handle (13B) with an interchangeable nozzle adapter (36), where nozzle adapter has male threading at the end mating with the inside threading (41) of the (13B) handle, flat rubber washer (34) keeps tight water proof coupling.

In respect, after explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention, nor is it intended to be limiting as to the scope of the invention in any way.

CLAIMS

What I claim as my invention is a Multi User Oral Cleansing Device, ~~DentalJet~~ comprising:

1.(Cancelled) ~~A diverter capable to be connected to a faucet by means of threaded captive nut with a cylindrical rotating mechanism able to turn 90 degree to adjust water flow between normal and diverted direction and in partial diversion functions as a volume control;~~

~~a. a diverter having a cleanable, reusable washer / filter insert to filter out any sediments to block water flow trough the narrow DentalJet nozzle opening having two fine plastic screens vulcanized into the rubber washer at the perimeter and has a fine filter felt between the two screens;~~

~~b. a diverter capable for water tight compression fitting with a flexible PVC hose or similar under normal household water pressure as means of conducting water from the diverter to the nozzle.~~

2. (Cancelled) ~~A barbed adapter made of brass, stainless metal or strong plastic capable to provide water tight connection at the input of the adapter, also called " the interchangeable hose assembly";~~

~~a. short flexible, expandable approximately 1" length rubber tube fitted on the nozzle side of the adapter and clamped onto it at the center capable to be inserted into the handle without water pressure as part of the " the interchangeable hose assembly " as mentioned before, extractable without water pressure allowing color coded handle / jet assembly exchange for other users;~~

~~b. said adapter having a hole longitudinally in the center, narrower at the end where water exist functioning as a volume / pressure limiter;~~

~~c. same adapter having a diagonal hole across it in under the aforementioned rubber tube causing~~

~~it to bulge up under water pressure providing firm water tight fit inside the DentalJet's handle;~~

~~d. this rubber hose as mentioned in 2a, 2c bulges up with water pressure, releases water around the front end of the adapter towards the nozzle as it deflates partially than pressure bulges up the rubber tube again, and it gets partially deflated, this repeated cycle creates a pulsating jet stream;~~

~~e. single user version has the metal barbed adapter molded inside the nozzle tip~~

3. (New) A multi user oral cleansing device comprising:

a diverter for connection to a faucet, said diverter having a valve for diverting water from faucet;

an elongated connecting hose having opposite first and second ends, said first end connected to the diverter conveying water from the valve;

a dental jet handle piece being connected to the second end of the elongated connecting hose and having nozzle for directing fluid to the user's oral cavity, said jet hand piece having an adapter for pulsating the flow of water through the jet hand piece, said adapter being comprised of an elongated rigid tubular manner having barbed first and second ends and a first fluid passage extending longitudinally there through, said adapter further includes a second fluid passage extending diagonally through the tubular member wall and in communication with the first passage, said first barbed end being connected to the second and of the elongated connecting hose, said adapter further comprising a rubber hose that expands over the second barbed end of the tubular member and covers the second diagonal fluid passage;

wherein when water flows through the jet hand piece water conveyed trough the adapter first passage and trough the second passage where the water pressure repeatedly bulges the rubber hose around the tubular member second barbed end until the water is released out of the end of

the rubber hose and the bulging hose collapses, the repeated bulging and collapsing of the rubber hose causing the water directed out of the nuzzle to pulsate;

the short flexible, expandable rubber hose fitted on the nozzle side of the adapter and clamped onto it at the center is capable of being inserted into the interchangeable handle without water pressure, with water pressure it expands against the inside wall of the handle, providing a tight connection while pulsating the water, with water pressure it allows the color coded handle / dental jet assembly to be exchanged for other users.

Multi User Oral Cleansing Device, DentalJet
Inventor: **Zoltan Egeresi**

ABSTRACT

This invention creates a convenient low cost water pressure driven multi user oral cleansing device, the DentalJet with exchangeable color coded nozzle / handle which is easy to use, needs no electricity. The invention uses a faucet attachable rotating diverter, a flexible longer food grade ~~pressure fitted~~ PVC tube and interchangeable ~~hose assembly, and the~~ color coded ~~exchangeable~~ jet nozzle / handle. The ~~faucet attachable single handle~~ diverter also functions as a fine water volume / pressure control with a preset temperature and filter. ~~It provides a new and convenient way to exchange nozzles for the different family members by using a pressurized flexible hose adapter~~.

Water pressure bulges up the flexible rubber tube clamped to the adapter and to the PVC tubing. Inside the handle the water pressure created friction keeps the hose adapter in solid coupling while the pressure is on. The rubber tube oscillates, as pulsating water exist at the nozzle. When the water pressure is removed, color coded nozzle / handle is exchangeable. ~~, friction keeps the hose adapter in solid coupling while the pressure is on, color coded nozzle / handle is exchangeable when water pressure is removed. The footprint of this DentalJet is very small, it attaches to the diverter, needs no extra counter space which is very important in especially small bathrooms.~~

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PATENT & TRADEMARK OFFICE

Remarks to Drawing pages

Multi User Oral Cleansing Device, Dental Jet

Application No 10/817,367
Applicant: Zoltan Egeresi
Examiner: Ralph A. Lewis

Sheet 4 FIG 10 and FIG 11 shows the interchangeable Dental Jet handle, outside case was identified twice with number 13 and 28. This sheet is being amended, number 28 was deleted, replacement sheet is submitted.

Correction to material type to element 16 on Fig 4-10, 13 and 14 was made in the detailed description of the invention. Sheet 2 Fig 6 number 28 was removed, replacement sheet is submitted.

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Remarks
Multi User Oral Cleansing Device, Dental Jet

Application No 10/817,367
Applicant: Zoltan Egeresi
Examiner: Ralph A. Lewis

Page 1, References in U.S. Patent Document. Added: No new material was submitted.

Page 2. References replaced by references cited by examiner.

Page 3 Last five lines deleted, from Prior art listing.

Page 4 Deletion of several lines, from prior art citing, line 4,5,6,7,part of 10, 13, 14, 16,17,18,19. New sentence added on line 19, 20,21,22. Part of last sentence deleted, and 3 words added on the last line of page 4 and first line on page 5.

Page 6, Brief summery of the invention, deleted words on line 2,3,6, 7, 8, 12, 13, 14, 16, 17, 20. Added words as underlined on line 2, 7, 11, 12, 13, 14, 15, 16,18, 19.

Page 7 Brief Description of the Several Views of the Drawings.

Deletion and or addition on lines 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 20, 22

Page 8 Deleted last five words on line 1, 2 and 3.

Page 9 Detailed description of the Invention. Addition on line 1, 27, deletion on line 5, 17, Element 16 is flexible rubber material, 14 was changed to rigid material from brass or stainless steel, element 10 is flexible PVC or similar hose, element 13 is the casing of the Dental Jet handle to clarify the objection to the drawings.

Page 10 Addition and deletion on line 2,12, 13, 14, 16, on line 23 deleted double numbering.

Page 11 No changes.

Page 12 and 13 Claim. Claim one and two cancelled , replaced by new claim 3 without adding any new material.

Page 15 Abstract, Addition and deletion on line 2, 3, 4, 5, 6, 8, 10, 13,14, 15 and 16.

Multi User Oral Cleansing Device, DentalJet (Marked up version)

United States Patent Office, Utility patent application
Inventor: Zoltan Egeresi, 5500 Coast Road Santa Cruz, CA 95060 USA
US citizen, 831/425-4512
Application No.: 10/137,172 – Continuation in Part, 10/817,367
Filed: 04/30/2002
Original publication no.: US-2003-0204155-A1
Pub. No. US 2004/0219483 A1
Art Unit 3732
Examiner : Ralph A. Lewis

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~~4,941,459 July 17, 1990 Sandip Mathur~~

~~4,942,870 July 24, 1990 Damien~~

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~~5,220,914 June 22, 1993 Thompson~~

~~5,231,978 Aug.3, 1993 Kao et al~~

~~5,385,533 Jan. 31, 1995 Coviello~~

~~5,387,182 February 1995 Otani~~

~~5,772,616 Jun 30, 1998 Competiello~~

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US 4,942,870 Damien,

US 5,095,893 Rawden Jr.,

US 5,218,956 Handler

US 5,220,914 Thompson,

US 5,387,182 Otani

US 5,727,733 Ruttenberg

US 6,740,053 Kaplowitz

US 6,848,471 Floh et al

MULTY USER ORAL CLEANSING DEVICE, DENTAL-JET

Inventor: Zoltan Egeresi Santa Cruz, CA USA

Application No.: 10/817,367
Examiner: ralph A Lewis

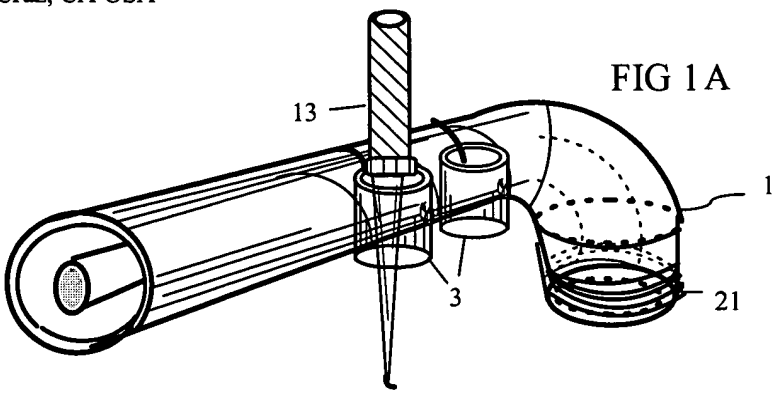


FIG 1A

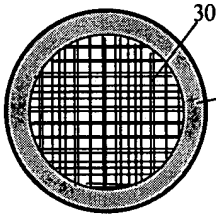


FIG 1B

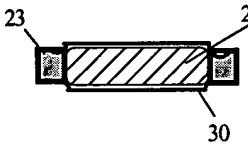


FIG 1C

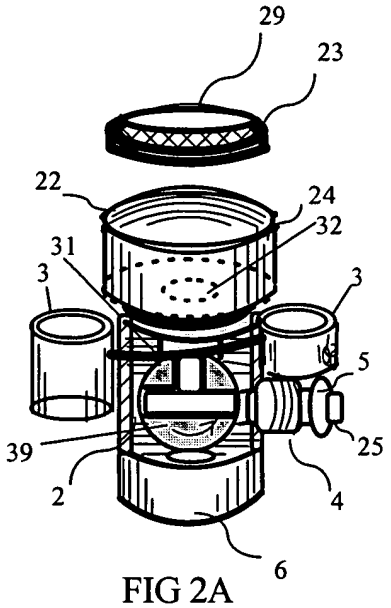


FIG 2A

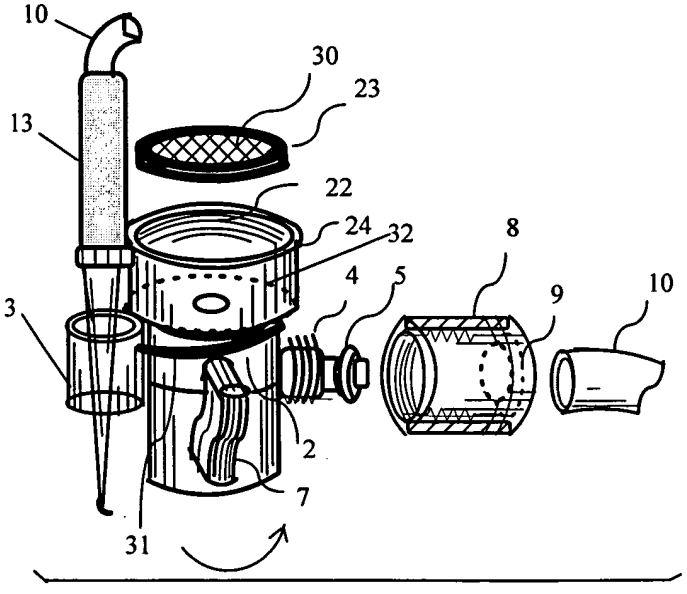


FIG 3

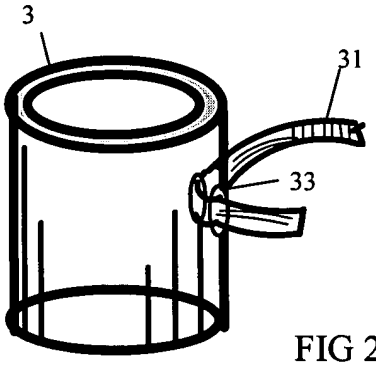


FIG 2B

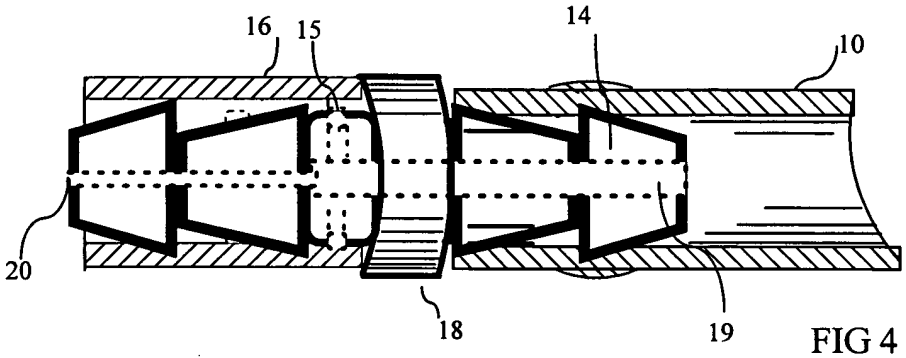


FIG 4

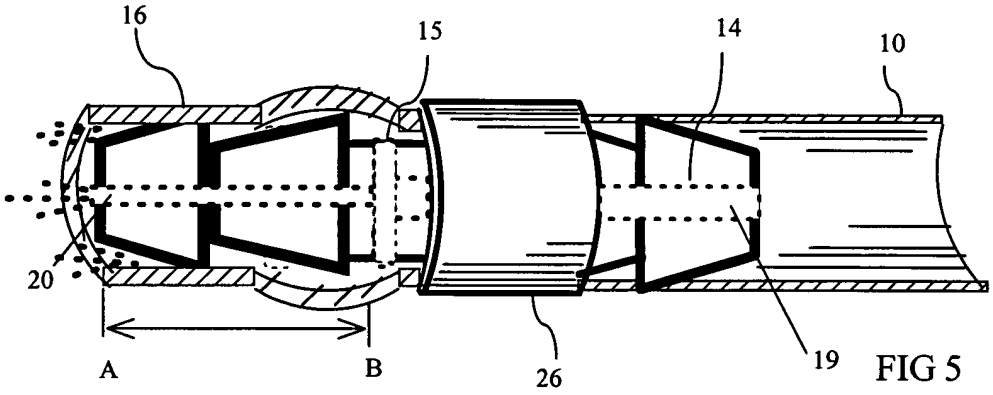


FIG 5

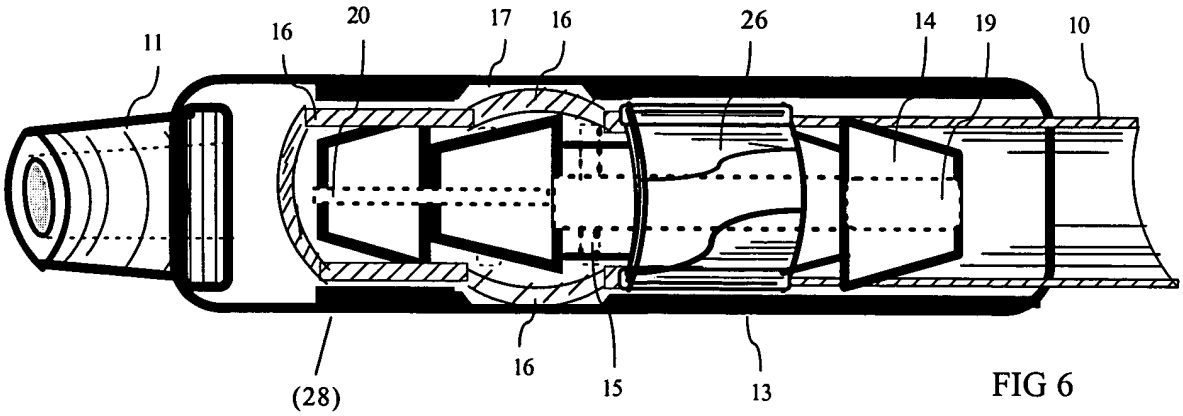


FIG 6

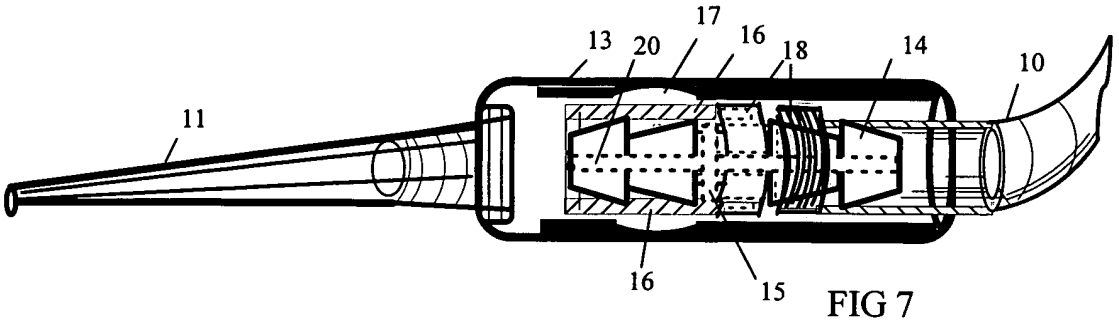


FIG 7

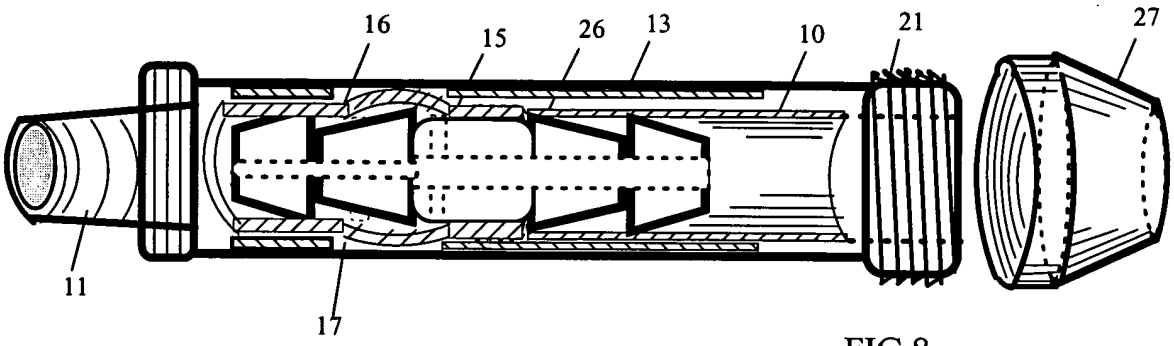


FIG 8

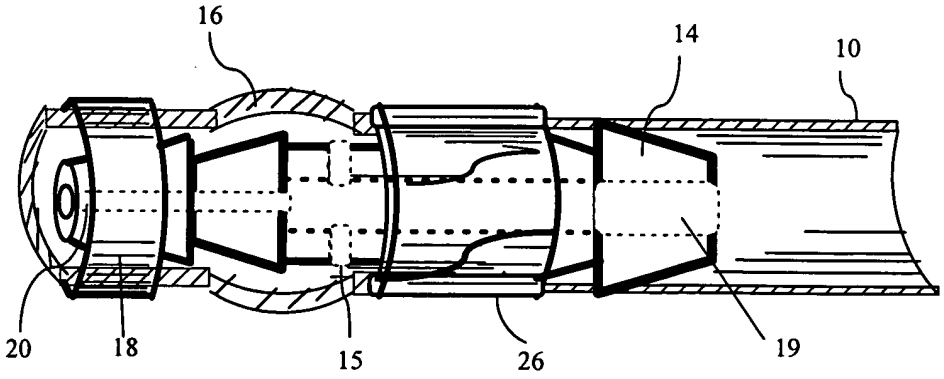


FIG 9

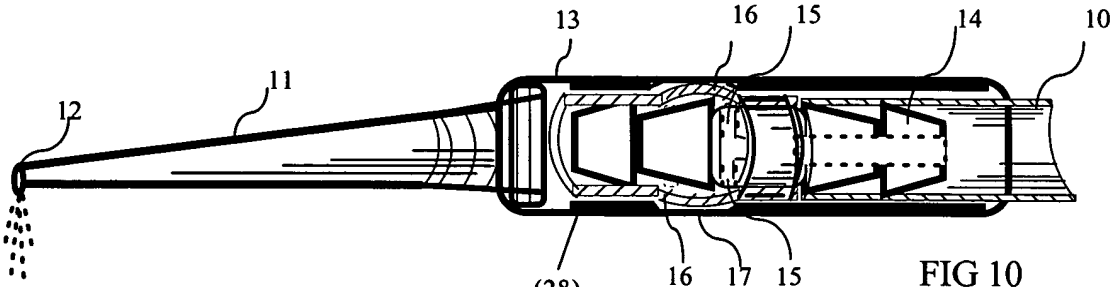


FIG 10

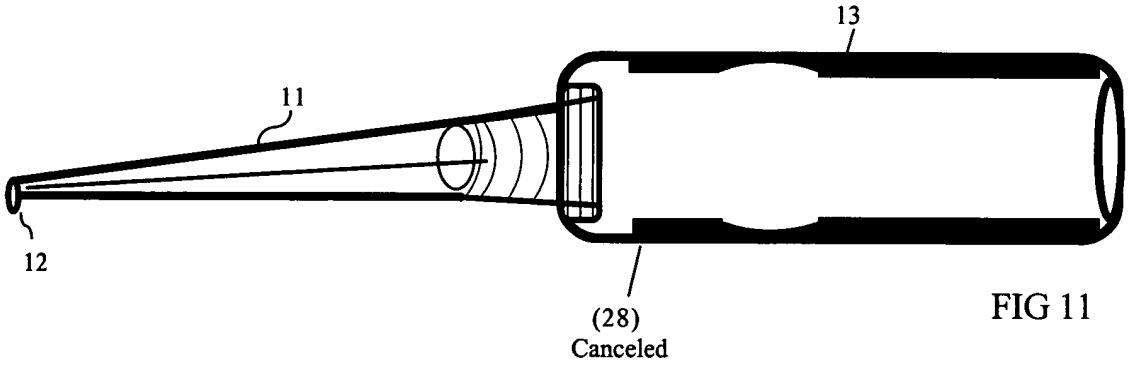


FIG 11

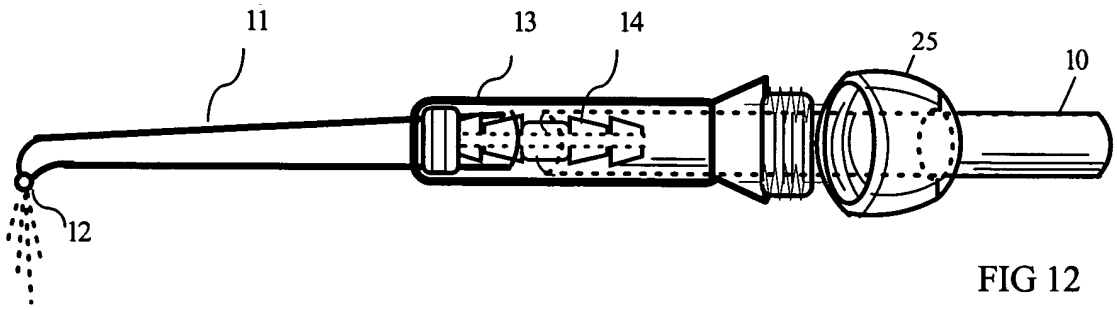


FIG 12

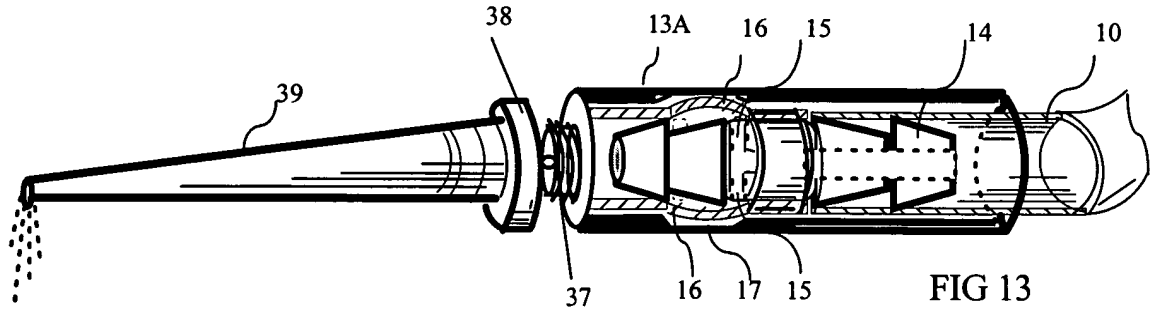

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13A
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FIG 13

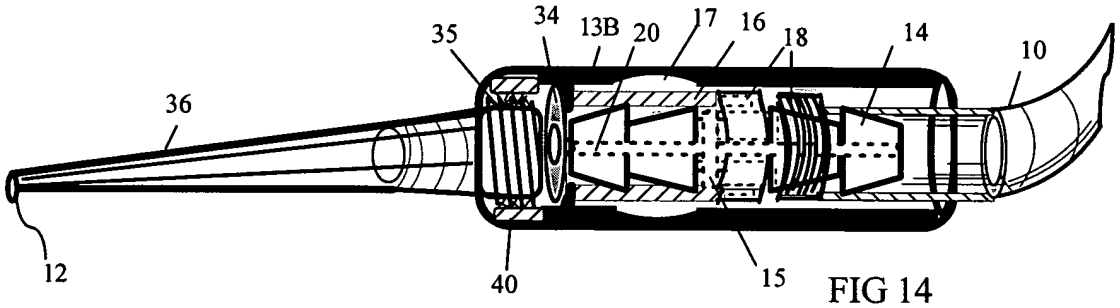

35
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13B
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FIG 14

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Multi User Oral Cleansing Device, DentalJet (Amended, clear version)

United States Patent Office, Utility patent application
Inventor: Zoltan Egeresi, 5500 Coast Road Santa Cruz, CA 95060 USA
US citizen, 831/425-4512
Application No.: 10/137,172 – Continuation in Part, 10/817,367
Filed: 04/30/2002
Original publication no.: US-2003-0204155-A1
Pub. No. US 2004/0219483 A1
Art Unit 3732
Examiner : Ralph A. Lewis

Substitute specifications contains no new material.

References in U.S. Patent Documents

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US 3,973,558 Stuffer at al,

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US 4,512,514 Elcott,

US 4,942,870 Damien,

US 5,095,893 Rawden Jr.,

US 5,218,956 Handler

US 5,220,914 Thompson,

US 5,387,182 Otani

US 5,727,733 Ruttenberg

US 6,740,053 Kaplowitz

US 6,848,471 Floh et al

Multi User Oral Cleansing Device, DentalJet (Amended, clear version)

United States Patent Office, Utility patent application
Inventor: Zoltan Egeresi, 5500 Coast Road Santa Cruz, CA 95060 USA
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US 5,220,914 Thompson,

US 5,387,182 Otani

US 5,727,733 Ruttenberg

US 6,740,053 Kaplowitz

US 6,848,471 Floh et al

BACKGROUND OF THE INVENTION

Field of Invention

This invention generally relates to the field of dental hygiene; in particularly to the ways and means of removing- and, washing out food particles from the oral cavity, from under bridge works, around crowns, plaque from teeth and massaging gums in a user friendly, inexpensive way. This DentalJet is also useful for cleaning dentures, or even jewelry with the strong jet flow setting. US patent classification is 128/66, International classification is A61H 9/00.

Most attention has been given to the care and preservation of the teeth and gums, and to various types of apparatus employing a jet of water for cleaning the teeth and massaging the gums. Such apparatuses are old and well known in the arts and are generally characterized as being structurally complex, most are expensive to manufacture, some are big and bulky, unsightly or inconvenient to use.

Description of Prior Art

This multi user oral cleansing invention overcomes some of these shortcomings of the prior arts and creates a new way to maintain excellent oral hygiene at low cost in the most convenient way. 3,973,558 Stouffer et al uses an oscillating jet tip, nozzle / handle seems too long for practical use. 4,135,501 Leunissan uses an adapter gripping to the faucet, in most cases it would slip off from the water pressure, or it is not adaptable to most types of faucets.
4,942,870 Damien looks bulky and may be impractical for daily use and is not being marketed.
5,095,893 Rawden Jr. seems to be a low cost oral cleaning device; the diverter is a pull type. Once activated, water pressure keeps the diverter in diverted position, no secondary fine pressure adjustment is available but it employs a replaceable jet and pulsating impeller.
5,220,914 Thompson's water / antiseptic mixer, installed to the shower head or to cold water line. Otani uses snap on coupling which needs to be removed for regular faucet use.
Several powered and non-powered dental cleaning devices have been invented. The only dental jet widely marketed is a powered multi nozzle Teledyne's Waterpik system and there is next to nothing on the non powered version; for the most part being impractical, inconvenient or cumbersome in design. My present invention contains none of the disadvantages of the prior art. It is a simple design and lacks moving parts or electricity. Safety and convenience is increased, while noise, cost and maintenance is reduced.

BRIEF SUMMERY OF THE INVENTION

The object of this invention is to create a new multi-user water pressure driven oral cleansing device with exchangeable nozzle / handle that is easy to use, uses no electricity, inexpensive to manufacture, and therefore is inexpensive at the retail level.

This invention creates a more convenient way to maintain dental hygiene. Just by rotating the diverter; it turns a faucet into an inexhaustible water source for the DentalJet. It can be manufactured with few components, uses domestic water supply under pressure

The object of this invention is to provide a new and convenient way to exchange nozzles for the different family members by using a pressurized flexible hose adapter with expendable rubber tubing inside the handle. Water flows in the flexible tubing, causing a pulsating jet stream as it bulges up the rubber hose around the adapter keeping it tight inside the handle.

The color coded jet-tip / handle can be replaced when water pressure is removed by turning the diverter in the regular straight direction. Deflated rubber tubing allows an easy exchange of water jets by sliding the "interchangeable handle/DentalJet" in and out.

The footprint of this DentalJet is very small. The handle holder is attached to the diverter, needs no extra counter space which is very important in small bathrooms, needs no electricity.

Inventor: **Zoltan Egeresi**

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Sheet 1 FIG 1 shows a typical faucet spout 1A, 1B and 1C is a special filter/washer (29) for illustration purposes. 2A shows a prior art diverter (2) with a DentalJet holder (3) on the side.

FIG 3 shows the DentalJet diverter in normal position.

Sheet 2 FIG 4 shows the elected interchangeable hose assembly.

FIG 5 illustrates the interchangeable hose assembly with a single, wide clamp (26) under water pressure, flexible rubber tube (16) is in the inflated position.

FIG 6 shows the hose assembly in the inflated position inside the handle (13), the inside diameter of handle is enlarged (17) to accommodate the inflated rubber hose to keep the assembly inside the handle (13).

Sheet 3 FIG 7 shows the side view of the DentalJet with dual single clamps

FIG 8 side view shows the hose assembly inside the handle with a closing cap(27).

FIG 9 shows the rubber hose end with two clamps providing the maximum tightness inside the handle, but no pulsating effect FIG 10 same as FIG 6 with nozzle (11) with maximum pulsating effect.

FIG 11 shows the side view of the case (13) and tip (11) as a sealed unit.

FIG 12 shows the stainless steel barbed adapter (14) molded inside the PVC tip (11) for a single user.

FIG 13 shows a replaceable threaded nozzle (39) with pulsating adapter assembly / handle.

Sheet 5 FIG 14 the replaceable nozzle (36) with an exterior threading, it mates with the female threading of the handle as they are interchangeable.

DETAILED DESCRIPTION OF THE INVENTION

Sheet 1FIG 1-3 illustrates prior art components as it is being used with the new invention.

FIG 1A shows a typical faucet spout (1) with threading (21), DentalJet (13) in the holder (3), 1B and 1C is a special filter/washer (23) with rubber vulcanized to the fine plastic filtering screen on top and on the bottom (30) with felt in the center (29) for fine particle filtering to prevent clogging up the DentalJet (13).

FIG 2A shows the diverter (2) in diverted mode supplying water via filter (23), center of diverter (32) via rotating diverter drum(39) compression type connector (5), (25), threading (4), normal flow exists through regular aerator (6) from faucet (1). Diverter is attached to the end of the faucet by captive , rotating nut (24) with inside threading a DentalJet holder (3) on the side, 2B shows the DentalJet holder (3) made of plastic, preferably PVC or vinyl. It has two oval holes (33) on the side, plastic cable tie (31) is threaded through and around the diverter above the diverter knob (7) to keep the DentalJet (13) in a secure position when not in use.

FIG 3 shows the diverter (2) in normal mode with flexible PVC tube (10) which is fed through compression nut (8) in the center hole (9) over the sleeve (5) to provide a water-tight connection when nut (8) is tightened, flex tube is about 20-25" long, the other end is the interchangeable hose assembly (Fig, 4, 5, 6). Diverter knob (7) in partial diversion acts as a fine volume / pressure control, as it adjusts water pressure very conveniently with one hand with pre-selected water temperature.

Sheet 2 FIG 4 shows the other end of the flexible PVC hose (10) capable for compression and water tight barbed fitting at the interchangeable hose assembly, as it is tightly fitted on the rigid barbed connector (14) at least one inch in length. The other end of the adaptor has a flexible, expandable rubber tube (16) over the barbing area A to B attached with single clamp (18). Water flows from PVC hose (10) through the rigid, barbed adapter (14) intake opening (19) through smaller diameter volume limiter opening to the front end opening (20).

The front end of the rigid plastic or metal barbed adapter (14) is drilled through at location (15) to channel the water under the flexible rubber hose (16). As the water flows under pressure through the opening (15) it bulges up the rubber tube (FIG 4, 5, 6) and presses against the inner wall of the DentalJet at FIG 6 (17) to keep the hose tip assembly solidly inside the interchangeable handle (13).

Front end of adapter (14) has some "play" inside the handle to allow some water to pass through between the barbing and the rubber hose. The bulged up tube releases some water on the front when pressure is built up, partially deflates as water exits, than bulges up again, providing an oscillating, pulsating water flow effect as the water flows into the jet tip(11) in the handle.

On FIG 5 and 6 the clamp (26) is dual wide to be able to clamp the water supply hose (10) and the expandable short rubber hose (16) together to the barbed adapter (14).

Sheet 3 FIG 7 shows the complete interchangeable nozzle / handle assembly with the adapter hose assembly inserted without water pressure.

FIG 8 is a preferred configuration for a single user, where the handle is threaded at the end (21) and closable by cap (27).

FIG 9 shows a non pulsating interchangeable hose adapter end where the expandable rubber tube (16) is clamped at both end by clamps (18 and 26), providing the maximum friction to hold the hose adapter inside the handle (13) as water pressure bulges up the tube through the hole (15).

FIG 10 shows the maximum pulsating effect, all water passes under the flexible rubber hose (16) than to the nozzle (11).

FIG 11 shows the integrated nozzle / handle (11,13) nozzle (12) without the hose tip assembly.

FIG 12 shows a single user DentalJet assembly where one end of the brass or stainless steel adapter (14) is molded into the jet tip (11), PVC hose (10) is barbed fitted, case is closable by threaded cap (25).

Sheet 5 of FIG 13 shows an interchangeable handle 13A with male threading at the front end (37) with an interchangeable nozzle assembly (39), nozzle (12) and inside threaded connecting

with an interchangeable nozzle assembly (39), nozzle (12) and inside threaded connecting end(38) capable to being attached to the handle by with means of threading.

FIG 14 shows an interchangeable handle (13B) with an interchangeable nozzle adapter (36), where nozzle adapter has male threading at the end mating with the inside threading (41) of the (13B) handle, flat rubber washer (34) keeps tight water proof coupling.

In respect, after explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention, nor is it intended to be limiting as to the scope of the invention in any way.

Multi User Oral Cleansing Device, DentalJet
Inventor: **Zoltan Egeresi**

CLAIMS

What I claim as my invention is a Multi User Oral Cleansing Device, ~~DentalJet~~ comprising:

1.(Cancelled) ~~A diverter capable to be connected to a faucet by means of threaded captive nut with a cylindrical rotating mechanism able to turn 90 degree to adjust water flow between normal and diverted direction and in partial diversion functions as a volume control;~~

~~a. a diverter having a cleanable, reusable washer / filter insert to filter out any sediments to block water flow trough the narrow DentalJet nozzle opening having two fine plastic screens vulcanized into the rubber washer at the perimeter and has a fine filter felt between the two screens;~~

~~b. a diverter capable for water tight compression fitting with a flexible PVC hose or similar under normal household water pressure as means of conducting water from the diverter to the nozzle.~~

2. (Cancelled) ~~A barbed adapter made of brass, stainless metal or strong plastic capable to provide water tight connection at the input of the adapter, also called " the interchangeable hose assembly";~~

~~a. short flexible, expandable approximately 1" length rubber tube fitted on the nozzle side of the adapter and clamped onto it at the center capable to be inserted into the handle without water pressure as part of the " the interchangeable hose assembly " as mentioned before, extractable without water pressure allowing color coded handle / jet assembly exchange for other users;~~

~~b. said adapter having a hole longitudinally in the center, narrower at the end where water exist functioning as a volume / pressure limiter;~~

~~c. same adapter having a diagonal hole across it in under the aforementioned rubber tube causing~~

~~it to bulge up under water pressure providing firm water tight fit inside the DentalJet's handle;~~

~~d. this rubber hose as mentioned in 2a, 2c bulges up with water pressure, releases water around the front end of the adapter towards the nozzle as it deflates partially than pressure bulges up the rubber tube again, and it gets partially deflated, this repeated cycle creates a pulsating jet stream;~~

~~e. single user version has the metal barbed adapter molded inside the nozzle tip~~

3. (New) A multi user oral cleansing device comprising:

a diverter for connection to a faucet, said diverter having a valve for diverting water from faucet;

an elongated connecting hose having opposite first and second ends, said first end connected to the diverter conveying water from the valve;

a dental jet handle piece being connected to the second end of the elongated connecting hose and having nozzle for directing fluid to the user's oral cavity, said jet hand piece having an adapter for pulsating the flow of water through the jet hand piece, said adapter being comprised of an elongated rigid tubular manner having barbed first and second ends and a first fluid passage extending longitudinally there through, said adapter further includes a second fluid passage extending diagonally through the tubular member wall and in communication with the first passage, said first barbed end being connected to the second and of the elongated connecting hose, said adapter further comprising a rubber hose that expands over the second barbed end of the tubular member and covers the second diagonal fluid passage;

wherein when water flows trough the jet hand piece water conveyed through the adapter first passage and through the second passage where the water pressure repeatedly bulges the rubber hose around the tubular member second barbed end until the water is released out of the end of

the rubber hose and the bulging hose collapses, the repeated bulging and collapsing of the rubber hose causing the water directed out of the nuzzle to pulsate;

the short flexible, expandable rubber hose fitted on the nozzle side of the adapter and clamped onto it at the center is capable to be inserted into the interchangeable handle without water pressure, with water pressure it expands against the inside wall of the handle, providing a tight connection while pulsating the water; with no water pressure it allows the color coded handle / dental jet assembly to be exchange for other users.

Multi User Oral Cleansing Device, DentalJet
Inventor: **Zoltan Egeresi**

ABSTRACT

This invention creates a convenient low cost water pressure driven multi user oral cleansing device, the DentalJet with exchangeable color coded nozzle / handle which is easy to use, needs no electricity. The invention uses a faucet attachable rotating diverter, a flexible longer food grade PVC tube and interchangeable color coded jet nozzle / handle. The diverter also functions as a fine water volume / pressure control with a preset temperature and filter. Water pressure bulges up the flexible rubber tube clamped to the end of the adapter and to the PVC tubing. Inside the handle the water pressure created friction keeps the hose adapter in solid coupling while the pressure is on. The rubber tube oscillates, as pulsating water exist at the nozzle. When the water pressure is removed, color coded nozzle / handle is exchangeable.

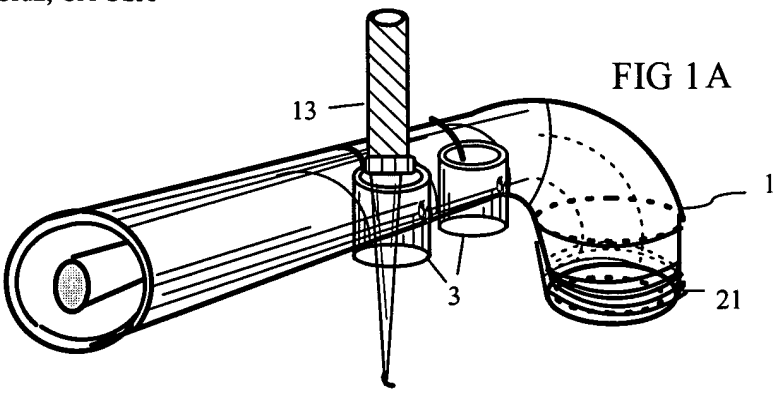
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PATENT & TRADEMARK OFFICE
AP18

MULTY USER ORAL CLEANSING DEVICE, DENTAL-JET

Inventor: Zoltan Egeresi Santa Cruz, CA USA

Application No.: 10/817,367
Examiner: ralph A Lewis

FIG 1A



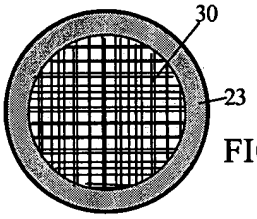


FIG 1B

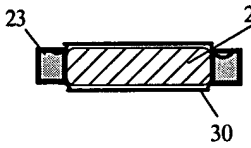


FIG 1C

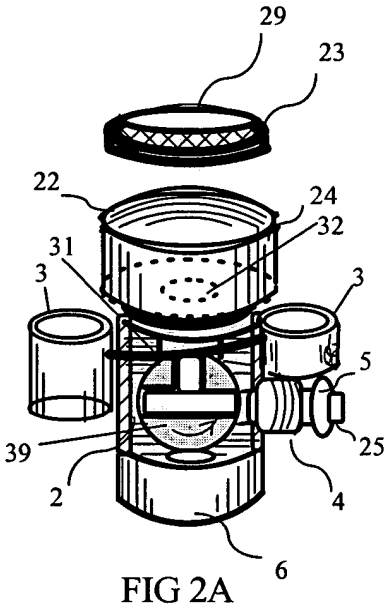


FIG 2A

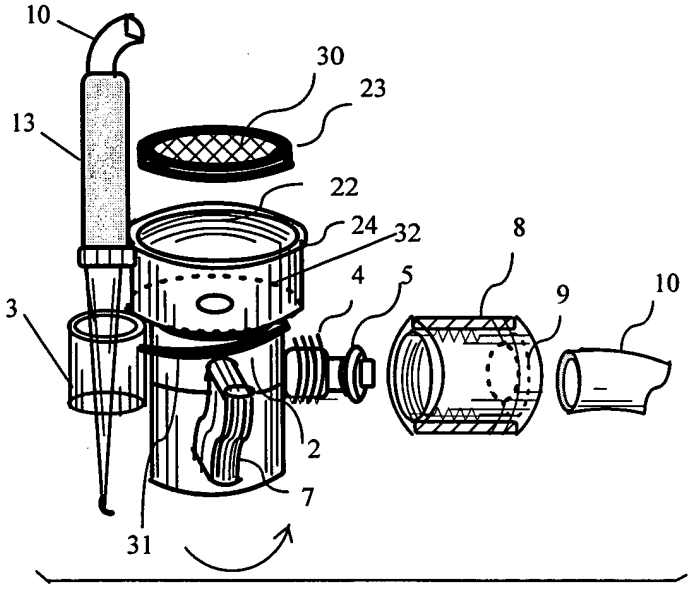


FIG 3

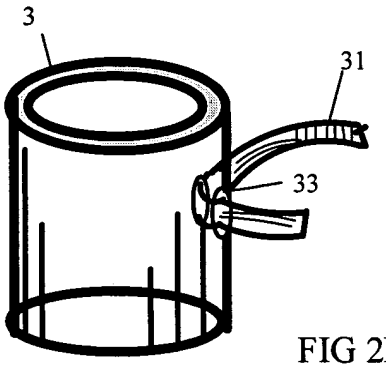


FIG 2B

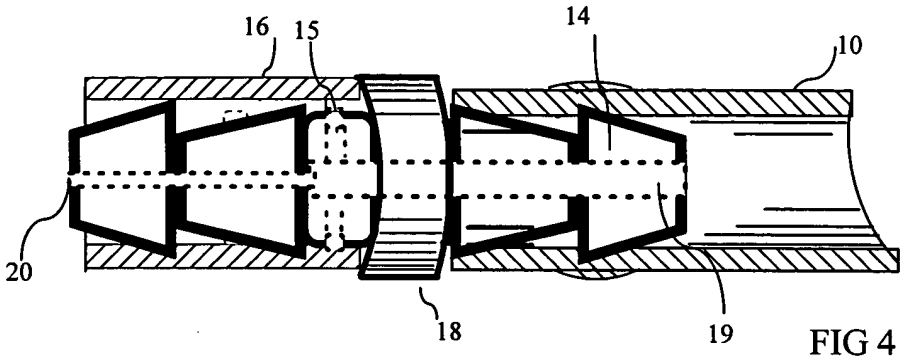


FIG 4

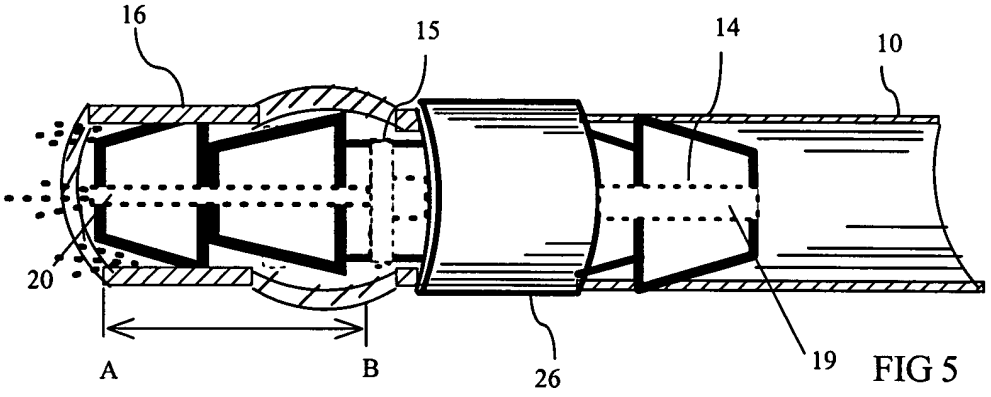


FIG 5

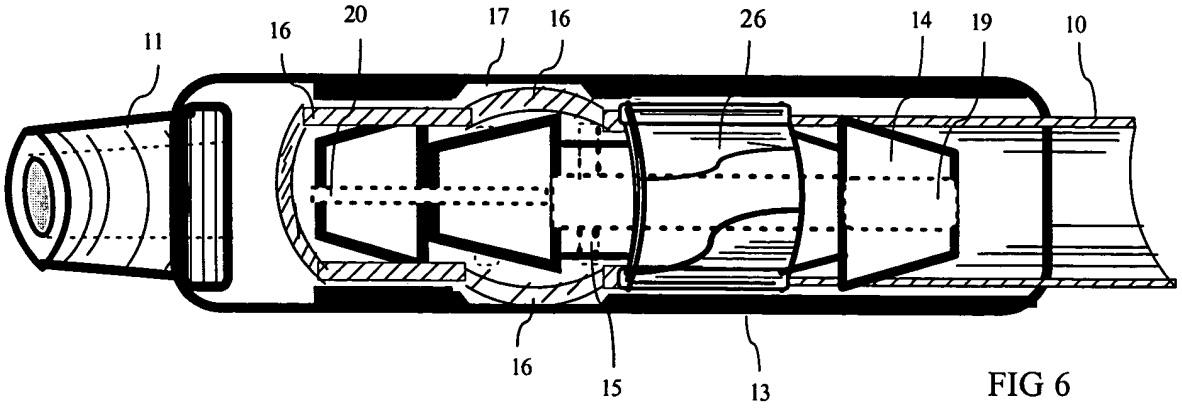


FIG 6

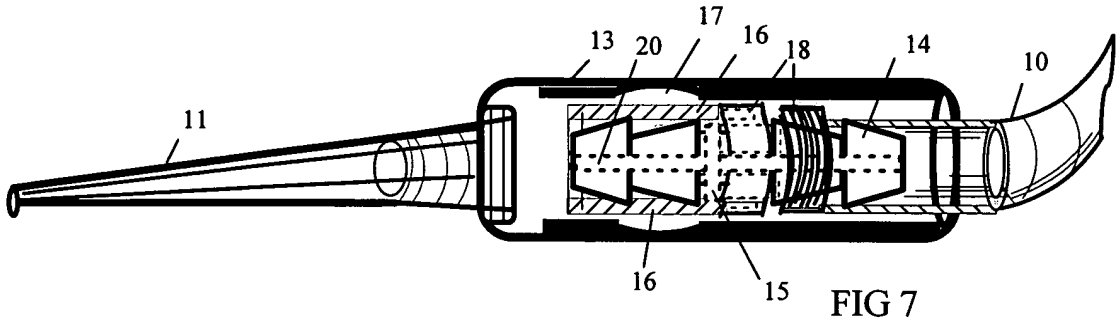


FIG 7

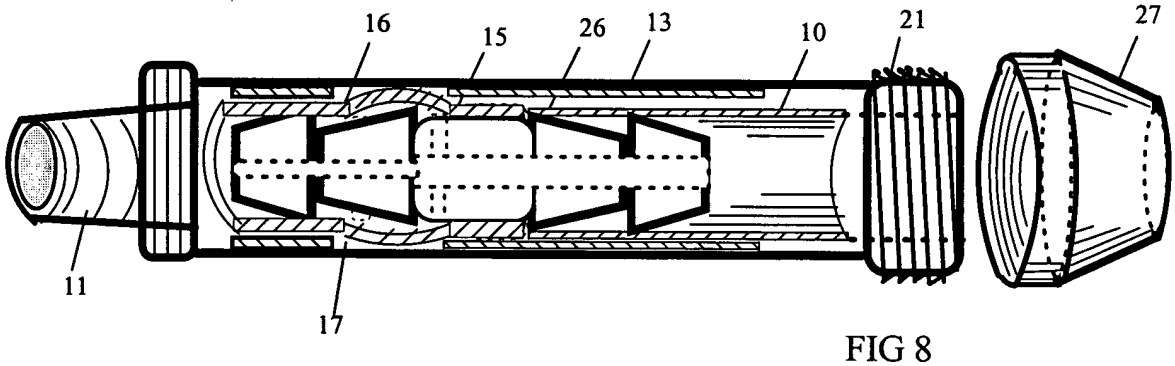


FIG 8

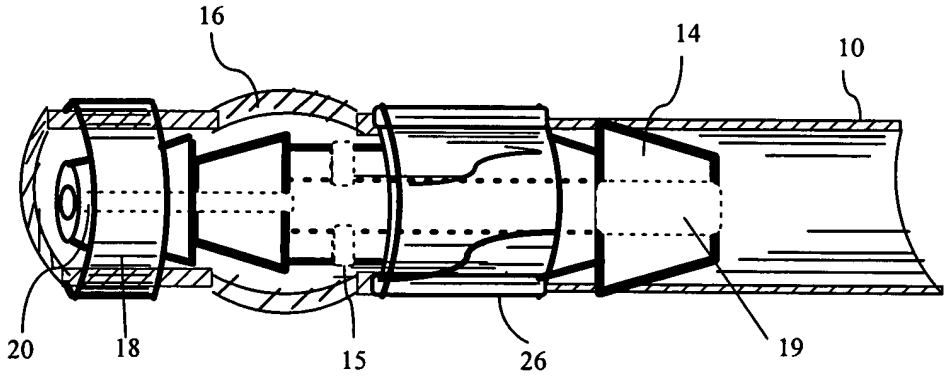


FIG 9

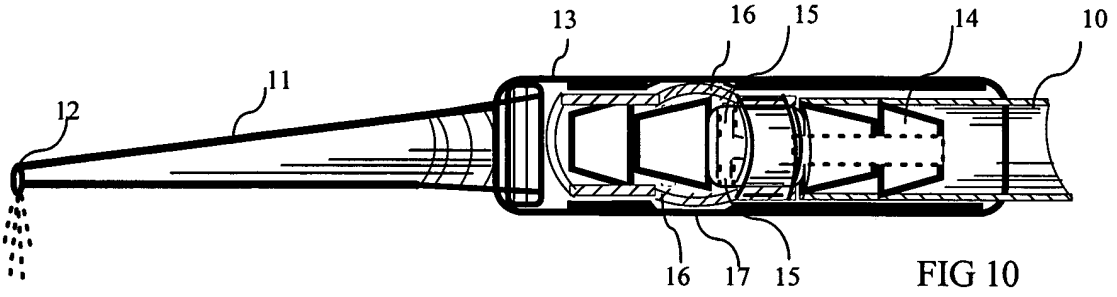


FIG 10

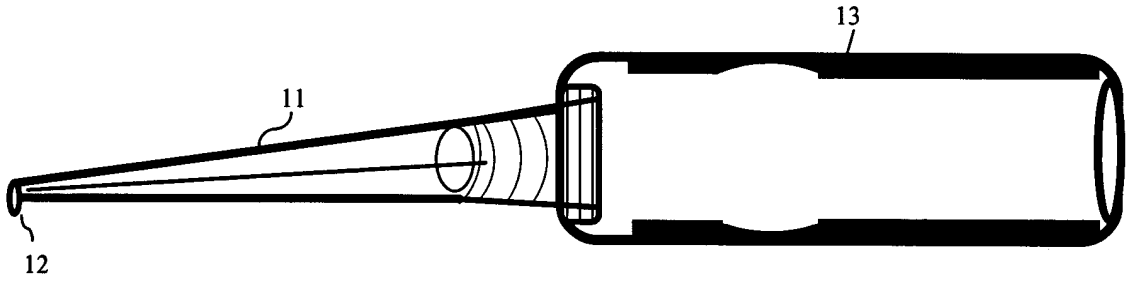


FIG 11

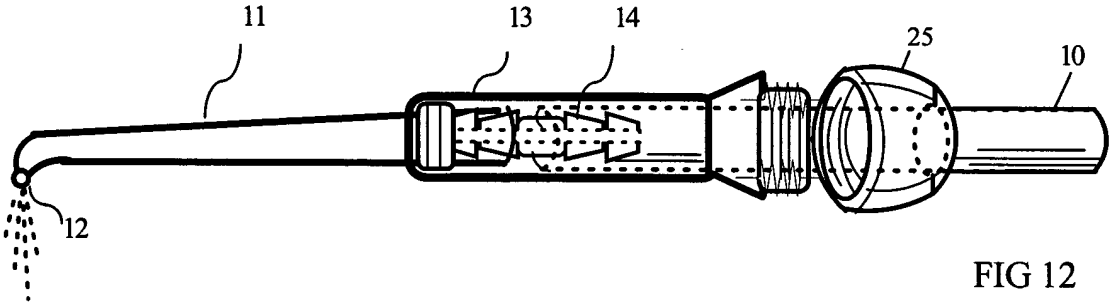


FIG 12

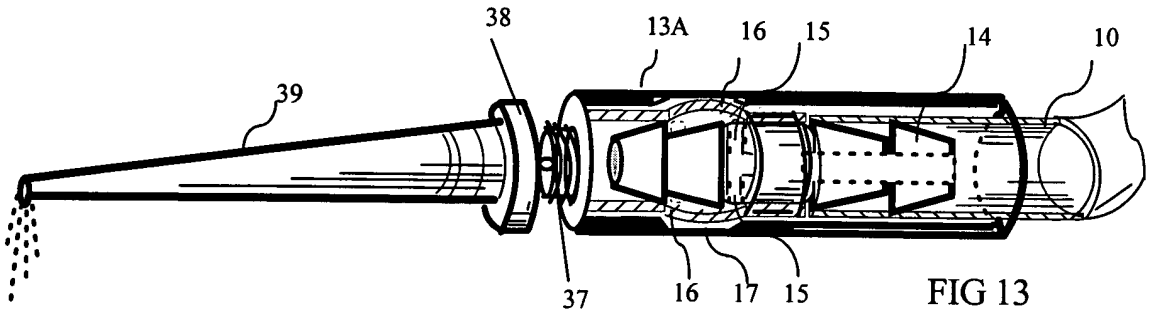

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13A
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FIG 13

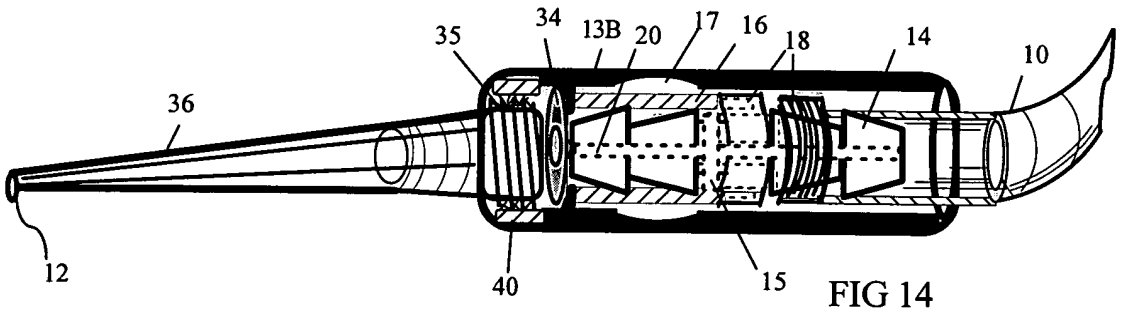

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FIG 14